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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/934,081

08/22/2001

Fuyuhiko Inoue

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10/02/2003

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EXAMINER

SMITH, ZANDRA V

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,081

Applicant(s)

INOUE, FUYUHIKO

Examiner

Zandra V. Smith

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 08/01, 12/01
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: 11/22

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20, 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what "the pairs of first, second, third, and fourth locations" are. Furthermore, in the fourth clause, it is unclear if there are numerous "second locations" and "fourth locations". Claim 25 is also rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the steps that calculate the tilt based on measurements J1 and J2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cameron (5,363,196) in view of Nishi (6,486,955).

Cameron shows a redundant interferometer laser-metering device comprising:

first (216), second (218), third (220) and fourth (234) sensors, each capable of generating data indicative of a distance between the first, second, third or fourth sensor, respectively, and a reflective surface of the reflective object (204, 206); the first, second, third, and fourth sensors comprising first, second third and fourth laser beams incorporated into an interferometer system (col. 5, lines 40-68); and a controller (102) for receiving inputs from the first, second, third, and fourth sensors and determining a tilt of the reflective surface with respect to a z axis; wherein: the support has a generally planar surface that is generally perpendicular to the z axis but which may tilt with respect thereto (col. 4, lines 11-20), the reflective object is mounted to the support so that the reflective surface is in a plane substantially parallel with the z axis and longitudinally extends substantially parallel to an axis normal to the z axis; the first and second sensors are aligned substantially parallel to the axis normal to the z axis along which the reflective surface extends longitudinally and are separated by a distance a; the third and fourth sensors is aligned substantially parallel to the axis normal to the z axis along which the reflective surface extends longitudinally and are separated by the distance a; the first and third sensors are aligned substantially parallel to the z axis and are separated by a distance b; the second and fourth sensors are aligned substantially parallel to the z-axis and are separated by a distance b (see fig. 2 and fig. 2a) and the controller determines a tilt of the reflective surface at a location k_a along the longitudinally extending direction of the reflective surface.

As for the calculation of the displacement measurement, although Cameron does not show the exact same formulas, it would have been well within the skills of one of ordinary skill in the art to calculate the distance, tilt, and/or yaw based on the distance measurements of each sensor.

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As for the scanning of the mirror, Nishi teaches the scanning of the mirror. At the time of the invention, one of ordinary skill in the art would have scan measured the mirror in order to characterize the mirror in order to better determine the stage position.

As for the addition of fifth, sixth, seventh, and eighth sensors, at the time of the invention, one of ordinary skill in the art would have used fifth, sixth, seventh, and eighth sensors in order take redundant measurements. One of ordinary skill in the art would have done so in order to take additional measurements thus getting more accurate measurements. Furthermore, the additional measurement would provide better measurement data since the surface profile of the mirror can be obtained.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-25 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-25 of copending Application No. 09/883296. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

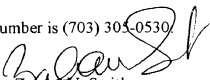
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Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (703) 305-7776. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703)308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0530.


Zandra V. Smith
Primary Examiner
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